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A New Species of *Thalassomyia* (Diptera, Chironomidae)  
from Cocos Island, Costa Rica

*With 5 Text-figures*

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**ABSTRACT** *Thalassomyia cocosensis* n. sp., from Cocos Island, Costa Rica is closely related to *T. setosipennis* Wirth from Hawaii and also *T. bureni* Wirth from Florida, but is obviously separated from those two species in the markedly long and spine-like setae on the legs, the different shape of the basal lobe of the basistyle and the long dististyle of the male imago.

The author recently examined the material of marine chironomids, the numerous specimens of a single species of the genus *Thalassomyia* Schiner, from Cocos Island located midway on a line drawn from mainland Costa Rica and the Galapagos Islands, collected by Dr. Charles L. Hogue of the Los Angeles County Museum of Natural History, 1978. The material was found to be a new species, and the description is given on the adults of the male and female.

*Thalassomyia cocosensis* sp. nov.

(Figs. 1–5)

*Adult.* Body length 2–3 mm long.

Head nearly elliptical in frontal view; vertex densely covered with short setae; several strong bristles along the dorso-caudal margin of eyes; interocular space relatively narrow; clypeus swollen with about 10 to 20 setae. Eyes large and completely bare. Antennae (Fig. 1) 7-segmented; each segment with an encircling row of relatively long setae; basal segment large and bulbous, second segment about twice as long as adjoining distal segment, slightly constricted in middle with about 6 setae; segments III to VI subspherical and subequal to each other, with about 5 setae, 7th segment long, about three times as long as broad and tapered distally, segments II to VI each with 4–6 small vestiges of sensory organs on distal portion; those of segment VII on middle portion. Ratio of

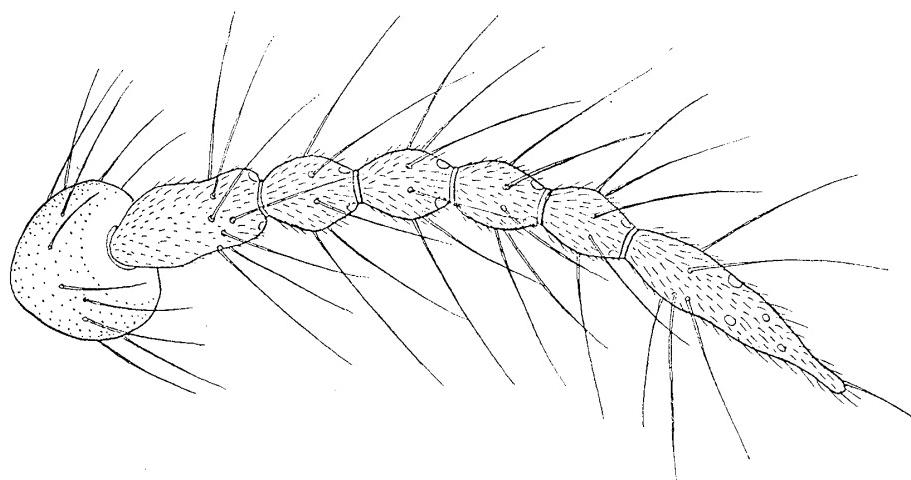


Fig. 1. *Thalassomyia cocosensis* sp. nov.; male antenna.

lengths of antennal segments 3: 7: 4: 4: 4: 4: 7. Palpi 4-segmented, long, about twice as long as the length of antenna; basal segment small ovoid with several stunted setae; second segment short but largest in diameter, with 15 to 20 setae; third segment long, about three times as long as second segment, with relatively short setae on front and rather long setae on hind surface; fourth segment subequal to third segment in length, with short and sparse setae. Ratio of length of palpal segments 2: 5: 12: 12. Paraglossae comparatively large and ovoid with an encircling row of fine setae.

Thorax well developed; pronotum not completely divided, its lateral half with more than 15 setae; mesonotum with very strong setae along the margins of vittae; scutellum pale in color, with 30 to 40 long setae; postscutellum darker in color and completely bare. Pattern of setal arrangement on thorax as in Fig. 2. Wings (Fig. 3) smoky grey-brown; costa and radial branches infuscated with pale brown; costa, R,  $R_1$  and  $R_{4+5}$  densely covered with strong black setae; proximal section of M with distinct long setae; base of Cu and 1st A each with also 20 long setae; distal section of M,  $Cu_1$  and  $Cu_2$  bare; Cu fork beyond the tip of r-m; squama with 5-10 long setae. Halteres milky white, with several short but strong setae. Legs long, highly setigerous; coxae of front legs pubescent on frontal and lateral faces; those of mid legs pubescent on distal portion; those of hind legs pubescent on latero-caudal aspect; hind surface of mid coxae thickly sclerotized; trochanters of all legs short and uniform with several short setae on ventro-mesal corner; femora long and clavate basally and slender and almost cylindrical; tarsal segments I to III slender and cylindrical; segment IV very short and subcordate in shape; 5th segment short conical, not bilobed at tip; empodium long and pectinately plumose. Claws of male asymmetrical on front and mid legs in which anterior claw is pectinate with about 10 to 20 teeth and posterior claw sharply pointed at tip; claws of hind legs symmetrical, both of which are

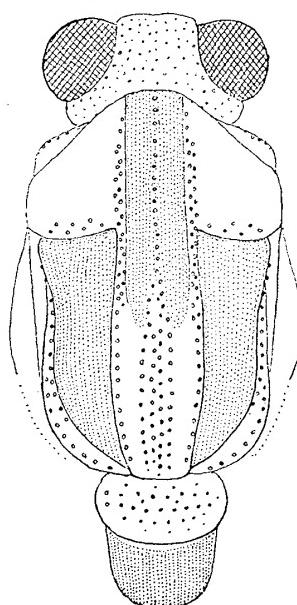


Fig. 2. *Thalassomyia cocosensis* sp. nov.; thorax showing setal arrangement.

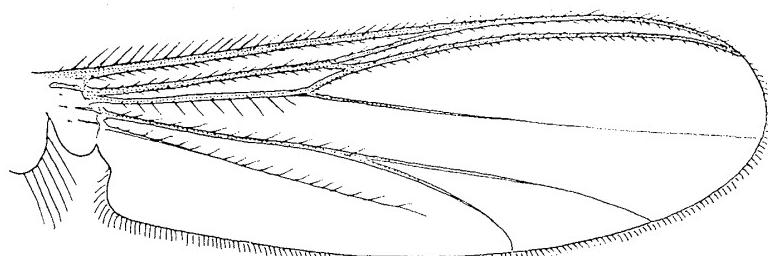


Fig. 3. *Thalassomyia cocosensis* sp. nov.; male wing.

pointed at tip. Claws in female symmetrical on all legs as in the hind legs in male. Pulvilli forming lanceolate hyaline lamella arising just from the base of each claw. Tibial spurs long and nearly straight, its proximal half bearing minute setae, simple on front and double on mid and hind legs. All leg segments bearing very long stout setae which are mostly black in color and three to four times as long as diameter of tibial segment.

Ratios of lengths of leg segments:

Fe	Ti	Ta1	Ta2	Ta3	Ta4	Ta5
40	55	32	11	5.5	1.5	2.5
59	56	25	7	4.5	1.5	2.5
53	69	34	13.5	8	1.5	1

Abdomen darker in color, rather stout gradually tapering distally, densely covered with relatively short setae. Hypopygium (Fig. 4) turned through 180°; basistyle markedly broad at base and abruptly narrowing midway to the truncated

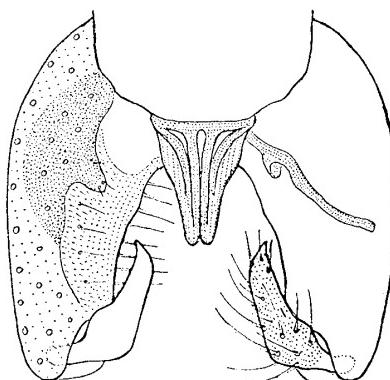


Fig. 4. *Thalassomyia cocosensis* sp. nov.; hypopygium.

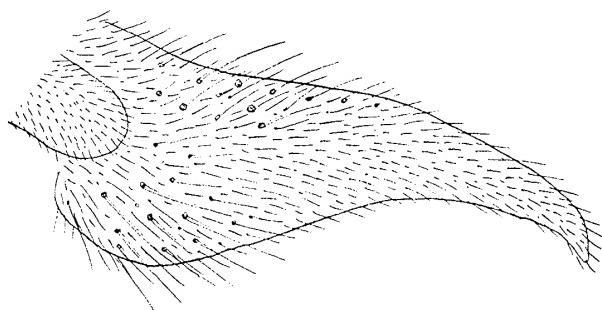


Fig. 5. *Thalassomyia cocosensis* sp. nov.; female cercus.

apex, covered all over with long bristles particularly on lateral aspect; a finger-like lobe on dorso-mesal edge on basal portion of basistyle, apex of this lobe with 2–4 minute setae on its inner face; ventro-mesal margin of basistyle with vestiture of very strong bristles; dististyle comparatively long and large, folded inward and distinctly arched, proximal third of dististyle enlarged and convex on mesad and tapered distally with long bristles on outer surface, about three distinct setae on apex. Aedeagus nearly T-shaped, projecting dorso-caudad between base of basistyle; a short hyaline penis lobe with bluntly rounding apical lips just below the aedeagus; apodemes of sclerotized laminiform guard-plate, gently curved. Female cerci (Fig. 5) elongate, gradually tapering from rounded base to pointed downcurved tip, covered with numerous minute setae all over the outer surface, rather long setae on its basal portion.

Holotype, male, Allotype, female, Paratypes, 25 males, 25 females, Cocos Island, Costa Rica, March 26–27, 1978. The specimens of the type-series (slide mount) are deposited in the Los Angeles County Museum of Natural History.

According to Dr. Charles L. Hogue, who conducted the expedition to Cocos Island, this species was taken at light, 8 watt white fluorescence, at night on beach, immediately east of mouth of Rio Genio, very low tide.

The genus *Thalassomyia* belongs to the subfamily Telmatogetoninae and consists of 9 described species, which are all marine. Difference between the species is not so remarkable, but they are divided into two groups because of the wing structure. The first group, in which the wing veins M, Cu, and 1st A are provided with fine setae contains only two species *T. setosipennis* and *T. burenii*. The second group, in which those posterior veins of wing are almost bare, contains all the remaining species. *Thalassomyia cocosensis* obviously belongs to the first group in the highly setigerous posterior veins of wings, but is readily distinguished from *T. setosipennis* in the markedly long and spine-like setae on the legs, length of which is about three to four times as long as the diameter of tibia and also from *T. burenii* in the well developed long palpus, which is about twice the length of antenna. Still more, *T. cocosensis* differs from those related species in the long last antennal segment, small finger-like basal lobe of the basistyle, and the elongate form of the female cercus. As a whole, the present species is considered to be an intermediate form between *T. setosipennis* and *T. burenii*.

*Thalassomyia setosipennis* is so far known from Hawaii (Wirth, 1947) and *T. burenii* is from Miami, Florida (Wirth, 1949). Wirth stated that *T. burenii* is related to *setosipennis*, and this relationship poses an interesting problem of distribution, in view of their wide separation with the intervening area on the western coast of Central America being inhabited by another species *T. longipes*, with South Pacific relationships (Wirth, 1949). *T. longipes*, member of the second group, has been found from the Galapagos Islands (Johnson, 1924) and the Tres Marias Islands, Mexico (Wirth, 1949). It is of interest that *T. cocosensis* being related to *T. setosipennis* and *burenii* was discovered within a radius of the distribution area of *T. longipes*, near the western coast of Central America.

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#### REFERENCES

- Johnson, C. W., 1924. Diptera of the Williams Galapagos Expedition. *Zoologica*, 5: 85-92.  
 Wirth, W. W., 1947. Notes on the genus *Thalassomyia* Schiner, with descriptions of two new species. (Diptera: Tendipedidae). *Proc. Hawaii. ent. Soc.*, 13: 117-139.  
 ———— 1949. A revision of the Clunionine midges with descriptions of a new genus and four new species (Diptera: Tendipedidae). *Univ. Calif. Publ. Ent.*, 8: 151-182.